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Number ~~84~~ *R33*

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January, 1917.

JOHN F. STRAUSS.

Mr. John F. Strauss, connected with the Bureau since 1903, died on Tuesday, January 2, 1917 at the Pottenger Sanatorium, Monrovia, Calif.

After leaving the public schools Mr. Strauss spent one year in the Kansas State Agricultural College, came East and entered the Virginia State Agricultural College, where he completed a four year's course in Agriculture, receiving the degree of Bachelor of Science. After graduation, he took up the study of medicine, spending two years at the University of Virginia, completing the courses in comparative anatomy, histology and bacteriology. He did not further pursue his medical studies, but returned to the Virginia Polytechnic Institute in the fall of 1897, pursuing graduate work and receiving the degree of Master of Science. Subsequently Mr. Strauss was connected with the Virginia Experiment Station and College as laboratory assistant and assistant instructor.

Upon entering the Bureau Mr. Strauss was employed as an entomological draftsman in the branch of forest entomology, working under the direction of Dr. A. D. Hopkins. During his period of service in that branch from 1903-1908, he made many excellent illustrations of forest insects, among which are those illustrating articles on "Insect Injuries to Forest Products" in the Yearbook of the Department for 1904; "Insect Enemies of Forest Reproduction" in the Yearbook for 1905, and "Injuries to Forest Trees by Flathead Borers" in the Yearbook for 1909. After a short assignment as insect artist to the Bureau in general, during which time he prepared illustrations of cotton insects at the Dallas [Texas] laboratory, and illustrations of parasites of the gipsy and brown-tail moths at the Melrose Highlands [Mass.] laboratory, he was transferred to the Office of Deciduous Fruit Insect Investigations, with which office he was connected at the time of his death. Mr. Strauss accomplished a large amount of work in the preparation of drawings of deciduous fruit and other insects, illustrating most of the publications that have appeared from that branch since about 1910.

Two papers have been published by Mr. Strauss, namely, one on *Clinocoris lectularius* and the other on the grape leaf-folder, *Desmia funeralis*. He was a member of the Entomological Society of Washington. Mr. Strauss possessed a high degree of artistic ability which, combined with his entomological training, made him unusually successful in insect delineation work. He was earnest and thorough, and possessed a personality which endeared him to all who came to know him.

STUDYING THE EGGS OF HEMIPTERA.

The older entomologists will recall the work undertaken by the late Mr. Otto Heidemann, relating to the study of the eggs of Hemiptera which resulted in the admirable paper published by him in 1911. Since then practically nothing has been added to the knowledge of this subject. It is now proposed to take up and continue with this important phase of insect life where Mr. Heidemann left off. The attention of field men associated with the Bureau as well as other entomologists is called to this project in hopes that whenever the opportunity occurs they will send in the eggs of Hemiptera for study and description. Any material will be greatly appreciated and should be addressed to Edmund H. Gibson, Division of Insects, U. S. National Museum, Washington, D. C.

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This organization is a direct result of the extension work in beekeeping which was begun last September by this Bureau in cooperation with the North Carolina College of Agriculture and Mechanic Arts, Raleigh.

Mrs. Marian A. Carter, formerly Miss Marian Armstrong, has returned to duty after a vacation of two weeks duration.

Dr. E. F. Phillips attended the meeting of the Apicultural Section of the American Association of Economic Entomologists recently held in New York City. Dr. Burton N. Gates was elected chairman of this section for the ensuing year. Arrangements were made at this meeting for the gathering of statistics on bee inspection for the United States in order to determine what progress has been made in this work.

Dr. E. F. Phillips attended the Farmers' Congress at Fort Collins, Colorado, on January 19. From this point he expects to go to Arizona and New Mexico to study beekeeping conditions in these States, then to Madison, Wis., to attend the annual meeting of the National Beekeepers' Association on February 6, 7 and 8.

Kennith Hawkins is absent on sick leave.

A. P. Sturtevant has recently constructed for the use of the laboratory a washing and dehydrating apparatus of the type described by Ezra Allen in the July number of The Anatomical Record.

FEDERAL HORTICULTURAL BOARD.

C. L. Marlatt, In Charge.

The Board has had a thorough survey made by its California collaborators, under the direction of Mr. Maskew, of the Department's introduction gardens at Chico, Cal. This survey is an annual function and precedes the shipment of plant material from this garden. A similar survey is in progress in relation to the introduction gardens in Florida, notably the garden at Miami, and involves inspection of plants both for insect pests and fungous diseases.

Various entomological and pathological experts of the Board, including members of the Board, have been in attendance during the month at important conferences in New York over quarantine matters, particularly in relation to the blister rust, in connection with the entomological and pathological meetings held in that city, and with the International Forestry Congress held in Washington. At the latter Congress the Chairman of the Board presented an address on the subject of losses occasioned by introduced insect pests and plant diseases. As a result of these conferences and of the needs of the plant quarantine service, an effort will be made to amend the Plant Quarantine Act, broadening its powers in relation to domestic quarantines so that introduced pests of a fairly widespread character, like the blister rust and the alfalfa weevil, can be more efficiently controlled.

A special appropriation of \$50,000.00 has been requested in relation to the possible invasion of Texas by the pink bollworm, this money to be expended in cooperation with the Bureau of Entomology in quarantine border control and control in Texas in particular relation to the various cotton mills which have received considerable quantities of seed from Mexico for milling purposes during the year. T. C. Barber has been transferred from the branch of Southern Field Crop Insect Investigations to the Federal Horticultural Board and placed in field charge of this work, effective February 1. An inspection service will be organized, consisting of at least four persons, two of whom will be assigned at once to border control work, and the other two to act in conjunction with Mr. Barber in the interior service and control. The continued disturbed condition in Mexico has frustrated the attempt to make a direct survey of the infested region in Mexico, and the negotiations for permission to make and safeguard such survey, conducted through the Mexican Ambassador Designate and the State Department have so far been unsuccessful.

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FOREST INSECT INVESTIGATIONS
A. D. Hopkins, In Charge.

Dr. Hopkins and Jacob Kotinsky attended the entomological meetings of the Entomological Society of America and American Association of Economic Entomology held in New York City during convocation week. Dr. Hopkins participated in the discussion of the presidential address before the American Association of Economic Entomology and in Prof. Dean's paper on the Hessian fly.

During convocation week Dr. Hopkins read a paper before the American Ecological Society, entitled, "Latitude, Longitude and Altitude as Factors of Climate Affecting Insects".

John M. Miller, in charge of the Pacific Slope Station at Ashland, Oregon, is now in Washington, D. C., for conference.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS
W. D. Hunter, In Charge.

T. C. Barber has been transferred to the Horticultural Board, effective on February 1. He will take charge of the field work involved in the threatened introduction of the pink boll worm in the United States. He will establish an office at San Antonio, Texas, and will have several assistants for inspection work at border ports and for the examination of cotton fields in the vicinity of Texas mills which received cotton seed from Mexico during the summer of 1916.

E. R. Barber has taken charge of the work on parasites of the cottony cushion scale in New Orleans. This work is supported by a fund to which contributions were made by the City of New Orleans, the Louisiana Experiment Station, and the Louisiana Department of Agriculture. The city has had a greenhouse erected in the grounds at Audubon Park where an effort is being made to produce large numbers of the *Vedalia* beetles for liberation in the infested portions of the city.

The following men were in Washington at various times during the month and have now returned to their several stations: T. C. Barber, A. C. Morgan, Henry Fox, U. C. Loftin, W. E. Dove, F. L. McDonough and F. C. Bishopp.

TRUCK CROP AND STORED PRODUCT INSECT INVESTIGATIONS
F. H. Chittenden, In Charge.

Neale F. Howard, specialist in insects as carriers of plant diseases, has spent the month in Washington, D. C., in conference, and will return to his headquarters Madison, Wis., after attending a second conference at Pittsburgh, Pa., with the entomologists, pathologists, and others interested in the topic of insects as carriers of cucurbit and other plant diseases.

C. H. Popenoe, entomological assistant, will visit Pittsburgh for the same purpose at the end of the month.

J. E. Graf, who has been absent from the Bureau of Entomology for a year, has been reappointed and will be in charge of a station at Plant City, Fla., where he will work on both truck crop and stored product insect investigations.

The pink cornworm (*Batrachedra rileyi* Wals.) has been discovered in injurious numbers in corn in several localities in Mississippi, and in less numbers in Louisiana and adjacent States.

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CEREAL AND FORAGE INSECT INVESTIGATIONS

W. R. Walton, Acting In Charge.

W. J. Phillips visited Washington recently, for the purpose of examining the types of Isosoma, contained in the United States National Museum Collection.

W. H. Larrimer, recently located at the Charleston, Missouri, station, has been transferred to the West Lafayette [Indiana] laboratory, to assist Mr. Davis in the Hessian-fly investigations.

A. F. Satterthwait, recently of the West Lafayette staff, is now in charge of the Charleston [Missouri] station.

Messrs. G. I. Reeves, E. G. Kelly, J. J. Davis, G. G. Ainslie and L. P. Rockwood have returned to their respective field stations after having visited Washington and attended the meetings of the A. A. A. of S. in New York City.

NOTES FROM THE WELLINGTON [KANSAS] FIELD STATION.

January 17, 1917.

J. S. Wade spent his vacation in Washington, Philadelphia, and New York, attending the entomological meetings while at the latter place.

It is suggested by E. O. G. Kelly that members of the branch of cereal and forage insect investigations submit titles of papers which they desire to publish, to the members in charge of the various stations, in order that they may add to such papers, information not yet on record but which might be of considerable value.

J. S. Wade, who is investigating the Tenebrionidae, will be glad to receive living specimens from any of the field stations. Specimens will be named and returned when desired.

Inspection of wheat plats west of the Mississippi River in the fall of 1916 indicates the fly-free dates for 1916 to be approximately those recommended in Circular 51 (of the Office of the Secretary); also that the eastern half of Oklahoma, north of the Cimarron River, the eastern half of Kansas, and the eastern third of Nebraska is very heavily infested. No infestation in southern Iowa; heavy infestation in all parts of Missouri; light infestation in northern Arkansas.

C. L. Scott inspected Hessian-fly plats in Arkansas, Missouri and northern Oklahoma during December. He found no Toxoptera present in this territory.

[Signed] E. O. G. Kelly.

NEWS ITEMS FROM THE TEMPE [ARIZONA] FIELD STATION.

The months, October, November and December, in this section of the country, have been characterized with unusually low temperatures for this season of the year, accompanied by dry weather; there having been no rain to amount to anything since the first of September. Extremely cold weather started on the 14th of November, when the thermograph record at this laboratory was twenty-eight degrees; since that time, there have been eighteen days with a minimum temperature below freezing. During the past thirteen days, commencing on December 8, the minimum temperatures have been respectively - 25, 21, 23, 20, 24, 24, 23, 30, 27, 22, 23, 23 and 26 - which is the longest continuous cold spell on record at this laboratory since it was established.

While these temperatures are not extremely cold, they are unusually low for this section of the country, and the effect on insect life is quite interesting:

For instance, various species of Aphids are exceptionally numerous. This is especially true upon such hardy plants as turnips, the reason for this being that the weather is entirely too cold for the development of parasites. Contrary to the usual custom, all other insect life has gone into complete hibernation. The effect of these temperature conditions upon insect outbreaks this coming season will be noted with considerable interest.

[Signed] V. L. Wildermuth.

ORGANIZATION OF THE BUREAU OF ENTOMOLOGY.

Entomologist and Chief of Bureau, L. O. Howard; Entomologist and Assistant Chief of Bureau, C. L. Marlatt; Chief Clerk and Executive Assistant, E. B. O'Leary; Librarian, Mabel Colcord.

The Bureau of Entomology studies insects with special reference to methods of control, experiments with the introduction of beneficial insects, makes tests with insecticides and insecticide machinery, and identifies insects sent in by inquirers. Field laboratories are located throughout the country.

BEE CULTURE.

E. F. Phillips, In Charge.

<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>	<u>PROJECT</u>
Phillips, E. F.	Washington, D. C.	Apiculturist	Supervision and wintering of bees
Demuth, Geo. S.	Washington, D. C.	Apicultural Assistant	Wintering of bees and spraying effects on bees.
Nelson, Jas. A.	Washington, D. C.	Expert	Development of bees.
Sturtevant, A. P.	Washington, D. C.	Specialist in Bacteriology of Bee Diseases	Disease distribution and control.
Rea, Geo. H.	Raleigh, N. C.	Apicultural Assistant	Demonstration.
Bartholomew, C. E.	Knoxville, Tenn.	Apicultural Assistant	Demonstration.
Hawkins, Kennith	Washington, D. C.	Apicultural Assistant	Demonstration.
Duckett, Myrtle	Washington, D. C.	Student Assistant	Wintering of bees.
Hodgkin, Kathryne	Washington, D. C.	Skilled Laborer	Wintering of bees.

CEREAL AND FORAGE INSECT INVESTIGATIONS.

W. R. Walton, Acting in Charge.

<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>	<u>PROJECT</u>
Walton, W. R.	Washington, D. C.	(Acting) In Charge, Cereal and Forage Insect Invest.	
Ainslie, C. N.	Sioux City, Ia.	Entomological Assistant	Cereal
Ainslie, G. G.	Knoxville, Tenn.	do.	"

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NAME	STATION	TITLE	PROJECT
Aldrich, J. M.	W. Lafayette, Ind.	Entomological Assistant	Cereal
Barber, G. W.	Wellington, Kans.	do.	"
Barrett, E. L.	do.	Scientific Assistant	"
Beyer, A. H.	Columbia, S. C.	do.	Forage
Bower, L. J.	Salt Lake City, U.	do.	"
Chamberlin, T. R.	do.	do.	"
Caffrey, D. J.	Tempe, Ariz.	do.	"
Creel, C. W.	Forest Grove, Ore.	do.	"
Davis, J. J.	W. Lafayette, Ind.	Entomological Assistant	Cereal
Emery, W. T.	Charlottesville, Va.	Scientific Assistant	"
Fenton, F. A.	W. Lafayette, Ind.	Entomological Assistant	Forage
Gahan, A. B.	Washington, D. C.	Scientific Assistant	"
Gates, F. H.	Tempe, Ariz.	do.	Cereal
Gibson, E. H.	Washington, D. C.	Collaborator	"
Hall, W. B.	Wakeman, Ohio	Scientific Assistant	"
Hill, C. C.	Knoxville, Tenn.	do.	Forage
Hogg, L. J.	Tempe, Ariz.	Entomological Assistant	"
Hyslop, J. A.	Hagerstown, Md.	do.	Cereal
Kelly, E. O. G.	Wellington, Kans.	Scientific Assistant	"
Kewley, R. J.	Columbia, S. C.	do.	Forage
Langston, J. M.	Forest Grove, Ore.	Scientific Assistant	"
Larrimer, W. H.	W. Lafayette, Ind.	Entomological Assistant	"
Luginbill, P.	Columbia, S. C.	Scientific Assistant	Cereal
McConnell, W. R.	Hagerstown, Md.	do.	"
Mason, S. L.	W. Lafayette, Ind.	Entomological Assistant	Forage
Miles, P. B.	Salt Lake City, U.	Scientific Assistant	Cereal
Myers, P. B.	Hagerstown, Md.	do.	"
Packard, C. M.	Martinez, Calif.	do.	"
Parker, H. L.	Hagerstown, Md.	do.	"
Pennington, W. E.	do.	do.	"
Phillips, W. J.	Charlottesville, Va.	Entomological Assistant	Forage
Reeher, M. M.	Forest Grove, Ore.	Collaborator	"
Reeves, G. I.	Salt Lake City, U.	Entomological Assistant	"
Rockwood, L. P.	Forest Grove, Ore.	Scientific Assistant	Cereal
Satterthwait, A. F.	Charleston, Mo.	do.	"
Scott, C. L.	Wellington, Kans.	do.	"
Smith, H. E.	W. Springfield, Mass.	Entomological Assistant	Forage
Snow, S. J.	Salt Lake City, U.	Scientific Assistant	"
Turner, C. F.	W. Lafayette, Ind.	do.	"
Turner, W. B.	Hagerstown, Md.	do.	"
Urbahns, T. D.	Martinez, Calif.	Entomological Assistant	Cereal
Vickery, R. A.	Brownsville, Tex.	Scientific Assistant	"
Wade, J. S.	Wellington, Kans.	Expert	"
White, G. F.	Washington, D. C.	Entomological Assistant	Forage
Wildermuth, V. L.	Tempe, Ariz.	Scientific Assistant	Cereal
Wilson, T. S.	Brownsville, Tex.		

DECIDUOUS FRUIT INSECT INVESTIGATIONS.

A. L. Quaintance, In Charge.

NAME

STATION

TITLE

Quaintance, A. L.	Washington, D. C.	Entomologist in Charge, Deciduous-fruit Insect Investigations.
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Apple Insect Investigations.

Brooks, F. E.	French Creek, W. Va.	Entomological Assistant
Baker, A. C.	Washington, D. C.	do.
Leach, B. R.	Winchester, Va.	Scientific Assistant
Siegler, E. H.	Grand Junction, Colo.	Entomological Assistant
Plank, H. K.	do.	Scientific Assistant
Newcomer, E. J.	Wenatchee, Wash.	do.

Peach Insect Investigations.

Blakeslee, E. B.	Springfield, W. Va.	Entomological Assistant.
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Grape Insect Investigations.

Nougaret, R. L.	Fresno, Calif.	Entomological Assistant.
Isley, Dwight	North East, Pa.	Scientific Assistant.
Ingerson, H. G.	Sandusky, Ohio	do.

Nut Insect Investigation.

Gill, J. B.	Monticello, Fla.	Entomological Assistant.
Fabis, A. I.	do.	Scientific Assistant.
Flebut, A. J.	Paxinos, Pa.	do.

Orchard Insecticides and Spraying Machinery.

Simanton, F. L.	Benton Harbor, Mich.	Entomological Assistant.
Wood, W. B.	Washington, D. C.	do.
McIndoo, N. E.	do.	Insect Physiologist.

Cranberry Insect Investigations.

Scammell, H. B.	Toms River, N. J.	Entomological Assistant.
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Control of Deciduous Fruit Insects by Natural Agencies.

Cushman, R. A.	North East, Pa.	Entomological Assistant.
Davidson, W. M.	Sacramento, Calif.	Scientific Assistant.
Speare, A. T.	Washington, D. C.	Mycoentomologist.

Deciduous Fruit Nursery Insect Investigations.

<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>
Ackerman, A. J.	West Chester, Pa.	Scientific Assistant.
<u>Orchard Insect Survey.</u>		
Paine, J. H.	Washington, D. C.	Entomological Assistant.

FEDERAL HORTICULTURAL BOARD.

Organization.--C. L. Marlatt, Chairman; W. A. Orton, Geo. E. Sudworth, W. D. Hunter, Karl F. Kellerman. R. C. Althouse, Secretary. Lester N. Palmer, In Charge Cotton Importations.

<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>	<u>ASSIGNMENT</u>
Sasscer, E. R.	Washington, D. C.	Chief Inspector	Inspection of departmental importations and of commercial importations of nursery stock entering the District of Columbia.
Sanford, H. L.	Washington, D. C.	Entomological Inspector	Inspection of departmental importations and of commercial importations of nursery stock entering the District of Columbia.
Morrison, Harold	do.	do.	do.
Dietz, Harry F.	do.	do.	do.
Beattie, R. Kent	do.	Pathological Inspector	do.
Lyman, George R.	do.	do.	do.
Weston, William H. Jr.	do.	do.	do.
Rogers, John T.	do.	Assistant Pathological Inspector	do.
Shaw, Harry B.	New York, N. Y.	Pathological Inspector.	General port inspection.
Tower, Daniel G.	do.	Entomological Inspector	Supervision of disinfection of imported cotton.
Brown, Kearn B.	do.	do.	do.
Smith, Ralph I.	Boston, Mass.	Quarantine Inspector.	do.
Carpenter, John S. P.	do.	do.	Supervision of disinfection of imported cotton, and inspection of establishments using imported cotton.
Webb, Alan G.	do.	do.	Supervision of disinfection of imported cotton, and inspection of potatoes.
Bailey, Irving L.	do.	do.	Supervision of disinfection of imported cotton.

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<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>	<u>ASSIGNMENT</u>
Shamblin, A. J.	Indio, Calif.	Field Inspector of scale insects of date palm.	Inspection and treatment of date palms in the area quarantined on account of date palm scale insects.

In addition to the technical employees listed above, the Board also has seventy-five collaborators, for the most part State entomologists and horticultural inspectors.

FOREST ENTOMOLOGY.
A. D. Hopkins, In Charge.

<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>	<u>PROJECT</u>
Armstrong, Miss E.	Los Gatos, Calif.	Ent. Prep.	
Armstrong, Miss K.	Washington, D. C.	Stenographer	
Boving, Dr. A. G.	do.	Expert	Coleopterous larvae.
Brunner, Josef	Missoula, Mont.	Spec. in Forest Ent.	In charge field station.
Burke, H. E.	Los Gatos, Calif.	do.	In charge of laboratory.
Carmody, Miss M.	Washington, D. C.	Ent. Draftsman	
Champlain, A. B.	Lyme, Conn.	Asst. in Forest Ent.	Field work on seasonal histories.
Clark, Miss E. B.	East Falls Church, Va.	Ent. Prep.	
Craighead, F. C.	do.	Spec. in Forest Ent.	Cerambycid larvae.
DeGryse, Rev. J.J.	Staunton, Va.	Collaborator.	
Edmonston, W. D.	Colorado Springs, Colo.	Spec. in Forest Ent.	In charge field station.
Ely, Prof. C. R.	East River, Conn.	Collaborator.	
Evenden, J. C.	Coeur d'Alene, Idaho.	Ent. Ranger.	
Pagan, Miss M.	Washington, D. C.	Ent. Prep.	
Fisher, W. S.	do.	Spec. on forest Coleoptera	Forest Coleoptera.
Glendinning, W.E.	Ashland, Ore.	Ent. Ranger.	
Gray, Miss M. V.	Washington, D. C.	Ent. Prep.	
Greene, C. T.	East Falls Church, Va.	Spec. in Forest Diptera.	Forest Diptera.
Griffith, L. C.	Atlanta, Ga.	Asst. in shade tree insects.	Shade tree field work.
Haslup, Miss E. O.	Washington, D. C.	Ent. Prep.	
Heinrich, Carl	do.	Spec. on Forest Lepidoptera	Forest Lepidoptera.

NAME	STATION	TITLE	PROJECT
Herbert, F. B.	Los Gatos, Calif.	Ent. Ranger.	
Hofer, Geo.	Tucson, Ariz.	Ent. Ranger.	
Hopkins, A. D.	Washington, D. C.	Forest Entomologist.	In charge of branch.
Keen, F. P.	Ashland, Ore.	Ent. Ranger.	
Keleher, T.A. Jr.	Washington, D. C.	Stud. Asst.	
Kotinsky, J.	do.	Asst. on Forest Ent.	
Middleton, Wm.	East Falls Church, Va.	Sci. Asst.	
Miller, J. M.	Ashland, Ore.	Asst. Forest Ent.	In charge field station.
Moore, Miss D.	East Falls Church, Va.	Stud. Asst.	
Patterson, J. E.	Ashland, Ore.	Ent. Ranger.	
Pollock, J. H.	Colorado Springs, Colo.	Ent. Ranger.	
Ritchie, Miss E.	Washington, D. C.	Ent. Prep.	
Rohwer, S. A.	East Falls Church, Va.	Spec. in Forest Hymenoptera.	Forest Hymenoptera (in charge of field station)
Sergeant, P. D.	Ashland, Ore.	Unskilled laborer.	
Snyder, T. E.	Washington, D. C.	Spec. in Forest Ent.	Forest products and termites.
Sullivan, Miss D.	do.	Ent. Prep.	
Wagner, Albert	Missoula, Mont.	Ent. Ranger.	

GIPSY AND BROWN-TAIL MOTH INVESTIGATIONS.
A. F. Burgess, In Charge.

Office: 964 Main Street, Melrose Highlands, Mass.
Laboratory: 17 East Highland Ave., Melrose Highlands, Mass.
Storehouse: 166 Franklin Street, Melrose Highlands, Mass.

LABORATORY AND FIELD:
Under direct supervision of A. F. Burgess.

Harry W. Allen, John W. Bradley, C. Walter Collins, William A. Collins, Samuel S. Crossman, Julian J. Culver, Rudolph W. Glaser, Hartley R. Gooch, Frank W. Graham, John E. R. Holbrook, Clifford E. Hood, Oswald E. Ingall, Dettmar W. Jones, Daniel D. Landers, Charles W. Minott, Franklin H. Mosher, Carl F. W. Muesebeck, Harold A. Preston, Clifford B. Russell, John V. Schaffner, Jr., M. Teresa Sheerin, Melvin B. Shepherd, William A. Shinkwin, Marcus T. Smulyan, Chellis W. Stockwell, John N. Summers, Ray T. Webber, Albert M. Wilcox, Harry I. Winchester, Reginald Wooldridge, Arthur W. Young.

All of the above employees have headquarters at Melrose Highlands Laboratory except Rudolph W. Glaser, Albert M. Wilcox and M. Teresa Sheerin, who have temporary quarters at Bussey Institution, Forest Hills, Mass.

RELATION OF SILVICULTURE TO GIPSY-MOTH CONTROL.

George E. Clement, Willis Munroe.

SCOUTING AND EXTERMINATION.

Under direct supervision of L. H. Worthley.

Henry L. McIntyre, Harold A. Ames, Henry N. Bean, Harry L. Blaisdell, Fred W. Foster, Lester E. Gibson, Frank W. Graves, Jr., Thomas A. McGarr, David G. Murphy, Charles E. Totman.

In addition to above, temporary foremen, scouts and laborers are employed as required throughout the infested territory.

QUARANTINE AND INSPECTION:

Under direct supervision of D. M. Rogers.

Harry W. Vinton, Irving T. Guild.

In addition to above, temporary scout inspectors are employed as required.

An office for this project is located in Room 905, Carney Building, No. 43 Tremont Street, Boston, Mass.

This investigation recently lost one of its most faithful employees, Emery A. Proctor, whose death occurred December 11, 1916.

Oswald D. Ingall has presented his resignation to take effect January 20, 1917, in order to engage in private business.

Charles F. Guptill has presented his resignation to take effect January 13, 1917, in order to accept another position.

Marcus T. Smulyan, formerly connected with the Virginia Agricultural Experiment Station, has been appointed to the position of Specialist in Insects and Carriers of Insect Diseases, and assigned to duty at the Laboratory.

Carl F. W. Muesebeck has been appointed to the position of Scientific Assistant and assigned to the Laboratory.

The Boston headquarters offices were moved on December 15, 1916, to a commodious dwelling, No. 964 Main Street, Melrose Highlands, Mass. An office for Quarantine and Inspection service is continued in Room 905, No. 43 Tremont Street, Boston, Mass.

G. E. Clement, Assistant in Forest Management, visited Washington, D. C., for the purpose of conferring with officials of the Forest Service on matters pertaining to forest management and silvicultural condition in relation to gipsy-moth control.

The three additional high-power motor truck spraying machines, recently contracted for, are approaching completion and will prove a valuable addition to the spraying equipment the coming season. A number of recent improvements in mechanism will be placed upon these machines.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS.

W. D. Hunter, In Charge.

Clarksville, Tenn. - A. C. Morgan, in charge; G. A. Runner, S. E. Crumb, F. L. McDonough, J. U. Gilmore, Dr. Henry Fox.
 El Centro, Calif. - E. A. McGregor, in charge.
 New Orleans, La. - T. E. Holloway, in charge; E. R. Barber, U. C. Loftin.
 Tallulah, La. - B. R. Coad, in charge; T. C. Barber, R. W. Moreland, T. F. McGehee, G. M. Anderson, G. L. Garrison.
 Thomasville, Ga. - Geo. D. Smith, in charge.
 Victoria, Tex. - J. D. Mitchell, in charge.
 Washington, D. C. - W. D. Hunter, in charge, W. D. Pierce.

MISCELLANEOUS INSECT INVESTIGATIONS.

L. O. Howard and W. D. Hunter, In Charge.

Dallas, Tex. - F. C. Bishopp, in charge; E. W. Laake, H. P. Wood, W. E. Dove.
 Mound, La. - D. L. Van Dine, in charge.
 New Orleans, La. - W. V. King, in charge; Dr. A. H. McCray.
 Scott, Ark. - J. K. Thibault, Jr.
 Uvalde, Tex. - D. C. Parman, in charge.
 Washington, D. C. - W. D. Hunter, R. H. Hutchison, A. H. Jennings, J. L. Webb.

TROPICAL AND SUBTROPICAL FRUIT INSECT INVESTIGATIONS.

C. L. Marlatt, In Charge.

<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>	<u>PROJECT</u>
Woglum, R. S.	Alhambra, Calif.	Entomological Assistant.	Citrus Fruit Insect Investigations in California.
Neuls, J. D.	do.	do.	do.
Yothers, W. W.	Orlando, Fla.	do.	Citrus Fruit Insect Investigations in Florida.
Horton, J. R.	Washington, D. C.	Scientific Assistant.	Investigation of the Argentine Ant in Relation to Citrus Fruits.
Sasscer, E. R.	do.	Collaborator.	Investigations of Insects Affecting Tropical and Subtropical Fruits and Plants in Greenhouses.
Borden, A. D.	do.	Scientific Assistant.	do.

1991

... 1917
... 1918
... 1919
... 1920
... 1921
... 1922

1997

1. 0.125
2. 0.250
3. 0.375
4. 0.500
5. 0.625
6. 0.750
7. 0.875
8. 1.000
9. 1.125
10. 1.250
11. 1.375
12. 1.500
13. 1.625
14. 1.750
15. 1.875
16. 2.000
17. 2.125
18. 2.250
19. 2.375
20. 2.500
21. 2.625
22. 2.750
23. 2.875
24. 3.000
25. 3.125
26. 3.250
27. 3.375
28. 3.500
29. 3.625
30. 3.750
31. 3.875
32. 4.000
33. 4.125
34. 4.250
35. 4.375
36. 4.500
37. 4.625
38. 4.750
39. 4.875
40. 5.000
41. 5.125
42. 5.250
43. 5.375
44. 5.500
45. 5.625
46. 5.750
47. 5.875
48. 6.000
49. 6.125
50. 6.250
51. 6.375
52. 6.500
53. 6.625
54. 6.750
55. 6.875
56. 7.000
57. 7.125
58. 7.250
59. 7.375
60. 7.500
61. 7.625
62. 7.750
63. 7.875
64. 8.000
65. 8.125
66. 8.250
67. 8.375
68. 8.500
69. 8.625
70. 8.750
71. 8.875
72. 9.000
73. 9.125
74. 9.250
75. 9.375
76. 9.500
77. 9.625
78. 9.750
79. 9.875
80. 10.000
81. 10.125
82. 10.250
83. 10.375
84. 10.500
85. 10.625
86. 10.750
87. 10.875
88. 11.000
89. 11.125
90. 11.250
91. 11.375
92. 11.500
93. 11.625
94. 11.750
95. 11.875
96. 12.000
97. 12.125
98. 12.250
99. 12.375
100. 12.500
101. 12.625
102. 12.750
103. 12.875
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110. 13.750
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246. 30.750
247. 30.875
248. 31.000
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252. 31.500
253. 31.625
254. 31.750
255. 31.875
256. 32.000
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261. 32.625
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288. 36.000
289. 36.125
290. 36.250
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293. 36.625
294. 36.750
295. 36.875
296. 37.000
297. 37.125
298. 37.250
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301. 37.625
302. 37.750
303. 37.875
304. 38.000
305. 38.125
306. 38.250
307. 38.375
308. 38.500
309. 38.625
310. 38.750
311. 38.875
312. 39.000
313. 39.125
314. 39.250
315. 39.375
316. 39.500
317. 39.625
318. 39.750
319. 39.875
320. 40.000
321. 40.125
322. 40.250
323. 40.375
324. 40.500
325. 40.625
326. 40.750
327. 40.875
328. 41.000
329. 41.125
330.

MEDITERRANEAN AND OTHER FRUIT FLIES.

C. L. Marlatt, In Charge.

<u>NAME</u>	<u>STATION</u>	<u>TITLE</u>	<u>PROJECT</u>
Back, E. A.	Washington, D. C.	Entomologist.	Geographical Distribution and Life History Studies of Fruit Flies.
Pemberton, C. E.	Honolulu, Hawaii	Entomological Assistant.	Control of Export Hawaiian Fruit.
Willard, H. F.	do.	Fruit Fly Quarantine Inspector.	do.

TRUCK CROP AND STORED PRODUCT INSECT INVESTIGATIONS.

F. H. Chittenden, In Charge.

AT WASHINGTON, D. C.

Chittenden, F. H., in charge.
 Popenoe, C. H., Entomological Assistant.
 Dovener, Wm. N., Expert.
 Cole, F. R., Specialist in Diptera.
 Duckett, A. B., Scientific Assistant, Stored Product Laboratory.
 White, Wm. H., Scientific Assistant, Truck Crop Laboratory.
 Johnson, P. M., Scientific Assistant, Curator of Insect Collection.

AGENTS IN THE FIELD.

Jones, Thomas H., Entomological Assistant, Truck Crop and Stored Product Insects, La. Agric. Exp. Sta., Baton Rouge, La.
 Graf, J. E., Entomological Assistant, Investigation of aphides on truck crops, thrips, and other pests, Plant City, Fla.
 Marsh, H. O., Scientific Assistant, Investigation of sugar-beet and cucurbit insects, Rocky Ford, Colo.
 High, M. M., Entomological Assistant, Onion and other thrips; stored product insects, Brownsville, Tex.
 Johnston, F. A., Entomological Assistant, Investigation of insects injurious to peas, beans, cucumbers, and especially insects injurious to crops for canning, Hart, Mich.
 Stahl, C. F., Scientific Assistant, Sugar beet insects, especially the curlytop leaf-hopper; also bean aphid, Spreckels, Calif.
 Fink, D. E., Scientific Assistant, Control of insects as carriers of diseases, and investigations of local insect pests, Norfolk, Va.
 Milliken, F. B., Scientific Assistant, Sugar beet and truck crop insects and stored product insects, Wichita, Kans.
 Boyden, Boyd L., Scientific Assistant, Aphides, onion and other thrips, and local pests, Pasadena, Calif.
 Campbell, Roy E., Scientific Assistant, Insects affecting beans, stored products and other local pests, Pasadena, Calif.
 Howard, Neale F., Scientific Assistant, Specialist in insects as carriers of plant diseases, Madison, Wis.
 Lauderdale, J. L. E., Preparator, La. Agric. Exp. Sta., Baton Rouge, La.

NAME

Back, W. A.

Emerson, C.

Walden, H.

Whitman, W.

Spencer, C.

Governor, W.

Lele, T. R.

Chubb, A.

White, W. H.

Donnan, F.

Donnan, F.

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Chubb, A.

Donnan, F.

Rocky M.

Donnan, F.

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MISCELLANEOUS INVESTIGATIONS.

Under immediate direction of the Chief of Bureau.

The naming, classification, and establishment of the systematic relationships of all insects which are being studied in the various laboratories of the bureau, and the identification of similar material submitted by the agricultural experiment stations and by scientific workers, are included under this head.

SCIENTIFIC STAFF.

August Busck, Rolla P. Currie, H. G. Dyar, Frederick Knab, and C. S. Menagh, entomological assistants; E. A. Schwarz, A. N. Caudell, H. S. Barber, assistants; A. A. Girault, expert on Chalcidoidea.

EDITORIAL OFFICE.

Rolla P. Currie, In Charge; B. A. Reynolds, Assistant.

The editorial office attends to the editing of manuscripts, the reading of proofs of publications and other printed matter, the preparation of indexes and abstracts, correspondence relating to manuscripts, proofs, and publications, and other work of a similar nature.

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